EduSahara™ Assignment

Name : Circles Miscellaneous

Chapter : Circles

Grade : CBSE Grade X

1. Which of the following statements are true?

a) A chord divides a circle into two segments.
b) The diameter is the longest chord.
c) Atmost one chord can be drawn on a circle with a certain length.
d) A chord divides a circle into two sectors.
e) The radius is the shortest chord.

(i) {d,b,a} (ii) {a,b} (iii) {e,c,a} (iv) {c,a} (v) {d,b}

2. Which of the following statements are true?

a) No two chords bisects each other.
b) Equal length chords subtend equal angles at the centre of the circle.
c) The longest chord of the circle passes through the centre of the circle.
d) The farther the chord is from the centre, the larger the angle it subtends at the centre.
e) Equal length chords are equidistant from the centre of the circle.

(i) {a,d,e} (ii) {a,b,c} (iii) {b,c,e} (iv) {d,c} (v) {a,b}

3. Which of the following statements are true?

a) The area enclosed by a chord and its minor arc is called minor segment.
b) A sector is the area enclosed by two radii and a chord.
c) The area enclosed by a chord and its major arc is called major segment.
d) The diameter divides the circle into two unequal parts.
e) A circle divides the plane on which it lies into three parts.

(i) {d,c} (ii) {b,a,c} (iii) {a,c,e} (iv) {b,a} (v) {b,d,e}

4. Which of the following statements are true?

a) A sector is the area enclosed by two radii and a chord.
b) The diameter divides the circle into two unequal parts.
c) The longest of all chords of a circle is called diameter.
d) The midpoint of any diameter of a circle is its centre.
e) Two chords bisect each other.

(i) {b,d,c} (ii) {c,d} (iii) {e,a,c} (iv) {a,c} (v) {b,d}

5. Which of the following statements are true?

a) If a kite is cyclic, it is a square.
b) A cyclic quadrilateral is a regular polygon.
c) If a parallelogram is cyclic, it is a rectangle.
d) If a rhombus is cyclic, it is a square.
e) If a trapezium is cyclic, it is a rectangle.

(i) {a,c} (ii) {e,a,c} (iii) {b,d} (iv) {b,d,c} (v) {c,d}

6. Which of the following statements are true?

a) Infinite circles can be drawn passing through three collinear points.
b) Exactly two tangents can be drawn parallel to a secant.
c) Only one circle can be drawn passing through two points.
d) Atmost one circle can be drawn passing through three non-collinear points.
e) Only one circle can be drawn with a centre.

(i) {b,d} (ii) {c,d,b} (iii) {c,d} (iv) {e,a,b} (v) {a,b}

7. Which of the following are cyclic quadrilaterals?

a) square
b) rhombus
c) rectangle
d) trapezium
e) triangle
f) parallelogram

(i) {e,f,a} (ii) {b,c,a} (iii) {d,c} (iv) {a,c} (v) {b,a}

8. Which of the following statements are true?

a) Atmost two common tangents can be drawn touching any two circles.
b) Atmost three common tangents can be drawn touching two circles which touch each other.
c) Atmost one common tangent can be drawn for any two concentric circles.
d) A maximum of four common tangents can be drawn touching any two circles.

(i) {b,d} (ii) {c,d} (iii) {a,b} (iv) {a,c,b} (v) {a,d,b}

9. Which of the following statements are true?

a) A diameter is a limiting case of a chord.
b) A secant and a chord are same.
c) A secant has two end points.
d) A radius is a limiting case of a diameter.
e) A tangent is the limiting case of a secant.

(i) {c,e} (ii) {c,e,a} (iii) {a,e} (iv) {d,b,a} (v) {b,a}

10. Which of the following statements are true?

a) The sides of a triangle can be tangents to a circle.
b) Two tangents to a circle always intersect.
c) Only one tangent can be drawn through a point on a circle.
d) Atmost one tangent can be drawn through a point inside the circle.
e) Only two tangents can be drawn from a point outside the circle.

(i) {a,c,e} (ii) {b,d,e} (iii) {b,a} (iv) {b,a,c} (v) {d,c}

11. Which of the following statements are true?

a) Two different tangents can meet at a point on the circle.
b) If two tangents to a circle intersect, their points of contact with the circle together with their point of intersection form an isosceles triangle.
c) A line parallel to a tangent is a secant.
d) If two tangents are parallel, the distance between them is equal to the diameter of the circle.
e) If two tangents are perpendicular, they form a right angled triangle with their points of contact with the circle and their point of intersection.

(i) {c,d} (ii) {b,d,e} (iii) {a,c,e} (iv) {a,b} (v) {a,b,d}

12. Which of the following statements are true?

a) If two circles intersect, then two common tangents can be drawn.
b) There exists four common tangents for any two non-intersecting circles.
c) If two circles touch each other externally, there is only one common tangent.
d) If two circles touch each other internally, there is only one common tangent.

(i) {c,d} (ii) {c,a,b} (iii) {a,b,d} (iv) {c,b} (v) {c,a}

13. Which of the following statements are true?

a) If two circles touch externally, their centres and the point of contact form an isosceles triangle.
b) If two circles touch externally, the distance between their centres is the sum of their radii.
c) If two circles touch internally, the square of the distance between their centres is the difference of the squares of their radii.
d) If two circles touch internally, their centres and the point of contact form a scalene triangle.
e) If two circles touch externally, the square of the distance between their centres is the sum of the squares of their radii.
f) If two circles touch internally, the distance between their centres is the difference of their radii.

(i) {c,f} (ii) {b,f} (iii) {a,b} (iv) {d,e,b} (v) {a,f,b}

14. Which of the following statements are true?

a) If a circle can be inscribed in a quadrilateral, then it must be a square.
b) If a circle can be inscribed in a quadrilateral, the sum of the lengths of a pair of opposite sides is equal to the other pair.
c) If a circle can be inscribed in a quadrilateral, it must be a kite.
d) It is always possible to inscribe a circle in a quadrilateral.
e) It is always possible to inscribe a circle in a regular polygon.

(i) {b,e} (ii) {c,e} (iii) {d,a,b} (iv) {a,b} (v) {c,e,b}

15. Which of the following statements are true?

a) Angles in the same segment are equal.
b) Angles in the opposite segments are complementary.
c) Angles in the opposite segments are supplementary.
d) Angles subtended by equal length arcs in two circles are equal.

(i) {b,d,a} (ii) {b,c,a} (iii) {a,c} (iv) {d,c} (v) {b,a}

16. The angle subtended by the semicircle at the centre is

(i) 190° (ii) 185° (iii) 180° (iv) 195° (v) 210°

17. The angle subtended by the diameter at any point on the circle is

(i) 120° (ii) 95° (iii) 90° (iv) 105° (v) 100°

18. The opposite angles in a cyclic quadrilateral are

(i) complementary (ii) equal (iii) linear pair (iv) supplementary

19. If the radius of the circumcircle is half the length of a side of the triangle, then the triangle is

(i) obtuse angled triangle (ii) acute angled triangle (iii) right angle triangle (iv) equilateral triangle

20. Circles having common centre are called

(i) intersecting circles (ii) concentric circles (iii) congruent circles (iv) similar circles

21. If two circles are concentric, then

(i) their perimeters are same (ii) their centres are same (iii) their radii are same

(iv) their diameters are same

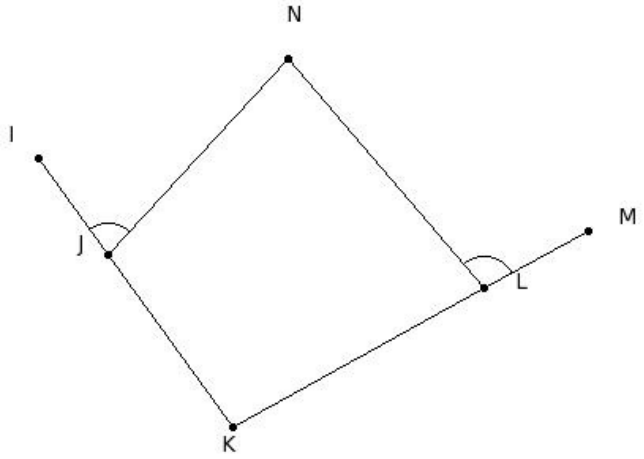
22. With the vertices of a triangle △IJK as centres, three circles are drawn touching each other externally. If the sides of the triangle are 9 cm , 14 cm and 13 cm , find the radii of the circles

(i) 9 cm , 10 cm & 14 cm respectively (ii) 4 cm , 10 cm & 9 cm respectively

(iii) 4 cm , 5 cm & 14 cm respectively (iv) 4 cm , 5 cm & 9 cm respectively

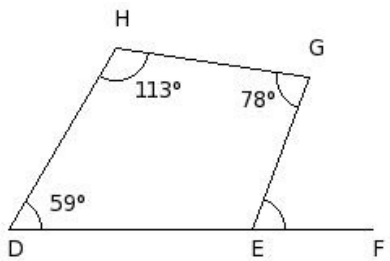
(v) 9 cm , 5 cm & 9 cm respectively

23. In the given figure, JKLN is a cyclic quadrilateral where KL and KJ are produced to M and I respectively. If ∠IJN = 79°, find ∠MLN



(i) 116° (ii) 101° (iii) 131° (iv) 111° (v) 106°

24. In the given figure, ∠D = 59° , ∠G = 78° and ∠H = 113°, find ∠GEF



(i) 80° (ii) 100° (iii) 75° (iv) 85° (v) 70°

25. Which of the following statements are true?

a) A cyclic trapezium is a rectangle.
b) A cyclic kite is a square.
c) A cyclic parallelogram is a rhombus.
d) A cyclic parallelogram is a rectangle.
e) A cyclic rhombus is a square.

(i) {b,e,d} (ii) {b,e} (iii) {d,e} (iv) {c,a,d} (v) {a,d}

26. Which of the following statements are true?

a) All parallelograms are cyclic.
b) An isosceles trapezium is cyclic.
c) Either pair of opposite angles of a cyclic quadrilateral are supplementary.
d) The exterior angle of a quadrilateral and its interior opposite angle are supplementary.
e) A quadrilateral in which the diagonals are equal and bisect each other is cyclic.

(i) {b,c,e} (ii) {a,b,c} (iii) {a,b} (iv) {d,c} (v) {a,d,e}

27. Which of the following are not cyclic quadrilaterals?

a) square
b) rectangle
c) rhombus
d) kite
e) isosceles trapezium

(i) {e,a,c} (ii) {b,d,c} (iii) {c,d} (iv) {b,d} (v) {a,c}

28. In triangle ABC, if a circle is drawn with BC as diameter and if it passes through A it is a

(i) equilateral triangle (ii) obtuse angled triangle (iii) acute angled triangle (iv) right angle triangle

29. Which of the following statements are true?

a) All chords of a circle are diameters.
b) All diameters of a circle are chords.
c) π is a rational number.
d) $\frac{22}{7}$ is a rational number.
e) A circle divides the plane into three mutually disjoint sets of points.

(i) {a,b,d} (ii) {c,d} (iii) {a,c,e} (iv) {b,d,e} (v) {a,b}

30. If FGHI is a cyclic quadrilateral and $\angle F - \angle H = 18°$, then $\angle H$

(i) 86° (ii) 91° (iii) 111° (iv) 96° (v) 81°

31. If GHIJ is a cyclic parallelogram, then $\angle J$

(i) 120° (ii) 100° (iii) 90° (iv) 95° (v) 105°

32. Points which lie on the circumference of the circle are called

(i) Similar points (ii) Concyclic points (iii) Coincident points (iv) Cyclic points (v) Concurrent points

33. Two concentric circles are of radii 23 cm and 9 cm. Find the length of the chord of the outer circle that touches the inner circle

(i) 40.33 cm (ii) 42.33 cm (iii) 41.33 cm (iv) 43.33 cm (v) 44.33 cm

Assignment Key

1) (ii)	2) (iii)	3) (iii)	4) (ii)	5) (v)	6) (i)
7) (iv)	8) (i)	9) (iii)	10) (i)	11) (ii)	12) (iii)
13) (ii)	14) (i)	15) (iii)	16) (iii)	17) (iii)	18) (iv)
19) (iii)	20) (ii)	21) (ii)	22) (iv)	23) (ii)	24) (v)
25) (iii)	26) (i)	27) (iii)	28) (iv)	29) (iv)	30) (v)
31) (iii)	32) (ii)	33) (ii)			